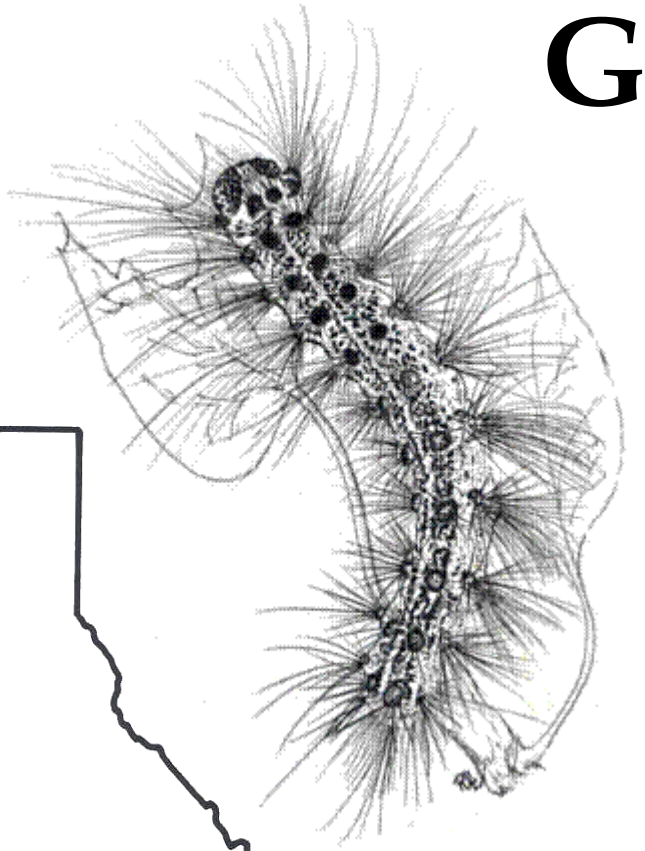
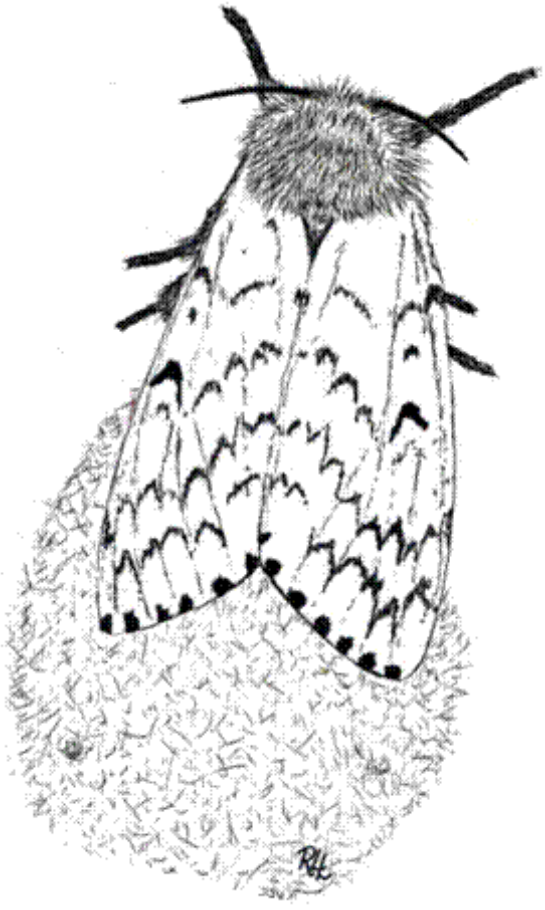
IDAHO

Gypsy Moth Report 2016





STATE OF IDAHO

GYPSY MOTH PROGRAM

SUMMARY REPORT

2016

by
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ABSTRACT

In 2016, one gypsy moth was captured in Idaho. This moth was identified by the Otis Methods Development Lab to be of the European/North American strain (EGM). This moth was caught in southern Idaho, Pocatello, Bannock County (Figure 1). Delimitation trapping was conducted at one location in Northern Idaho this season. This delimit location was surrounding the 2015 capture site of three male EGM in Wardner, Shoshone County.

INTRODUCTION

The gypsy moth (*Lymantria dispar*) is a destructive defoliator of many deciduous forest and shade trees as well as some conifers. Since the introduction of the European gypsy moth (EGM) into the United States in 1869, it has spread throughout New England and has become established in all or part of 20 Northeast and Midwest states. Once a pest becomes established, eradication is usually not possible, and this has been the case for the European Gypsy Moth. The Asian gypsy moth (AGM) was first discovered in North America in 1991 near the port of Vancouver in British Columbia, Canada. Since that time, AGM have been discovered and eradicated in California, Idaho, North Carolina, Oregon, Texas, and Washington State. Generally, AGM are introduced by ships moving cargo from overseas, whereas EGM are most often introduced to the west by people moving household items from generally infested areas of the United States.

The State of Idaho has eradicated all introductions of both EGM and AGM. As a result, Idaho has no established infestations of gypsy moths. It is the purpose of the Idaho Gypsy Moth Survey Program to detect new introductions of gypsy moths in a timely manner that allows for effective eradication treatments and avoids populations from becoming established. Delimitation and eradication can then be achieved with the least expense and least risk of environmental impact.

LIFE CYCLE

The gypsy moth goes through four life stages: egg, caterpillar (larva), pupa and adult. It has one generation per year and overwinters in the egg stage. Each female lays 50-1,000 eggs in one mass, which is covered with velvety golden, or buff-colored hairs from the female's abdomen. The egg mass is about ¾ inch wide and 1– 1 ½ inches long and is attached to trees, logs, rocks, buildings, and any other outdoor household article.

Caterpillars hatch from eggs in mid-April to mid-June. This is the only damaging life stage. A single caterpillar can eat up to three square feet of leaves in its lifetime. The caterpillars are voracious feeders and can grow to 2" in length. Larger (older) caterpillars have five pairs of blue spots and six pairs of rusty red spots along their backs. They typically feed in the treetops at night but migrate down the trunk to the ground each day as protection from the heat and birds.

Once a caterpillar matures, it transforms into a non-feeding stage called the pupa. The pupa is an immobile stage during which the caterpillar changes into an adult moth. Pupae may gyrate if they are disturbed, but left alone they will appear still as the change occurs. They are dark reddish brown and leathery. Mature caterpillars produce a "cocoon" with strands of silk, which is used to attach themselves to vertical surfaces. Then a more rigid chrysalis, or pupal case, forms around the caterpillar. They are usually found in crevices on tree trunks or on larger branches. Pupae may also be found buried in leaf litter.

Adult moths begin to emerge in late July and are often present until early October, depending upon location and temperatures. Females have tan bodies from 1" to 2" long. Their wings are cream

colored with dark brown zigzag markings. The female EGM do not fly, while the female AGM is capable of flight. Both EGM and AGM females emit a scent (pheromone) to attract a mate. Scientists have been able to produce this pheromone synthetically and use it to trap male moths. Males are medium sized (approx 1½ inch wingspan), brownish gray, have feathery antennae and fly in the late afternoon. Adult moths live for about one week, during which time the sexes mate. Females lay eggs during August and early September starting the life cycle over again.

HOSTS

The gypsy moth caterpillars generally prefer oaks as hosts. However, they have the ability to feed on several hundred species of trees and shrubs including oak, apple, alder, aspen, filbert, willow, birch, and plum. Coniferous species such as Douglas-fir, larch, pine and western hemlock are less desirable, yet are suitable hosts of the EGM (Liebhold *et.al.* 1995). Larch is a preferred host of the AGM, which has a broader host range than the EGM.

HISTORY

Surveys to detect the introduction of the gypsy moth have been conducted in Idaho each year since 1974 (Table 1). The first gypsy moth was discovered in 1986 at Sandpoint in Bonner County. The following year numerous additional moths were caught in Sandpoint and Coeur d'Alene. Ground treatments were conducted in 1988 and aggressive aerial spray eradication programs followed in 1989 and 1990 using a naturally occurring bacterium, *Bacillus thuringiensis var. kurstaki* (*B.t.k.*) as the pesticide (Tisdale and Livingston 1990, Livingston 1990). No gypsy moths have been caught in the treated areas since 1989. Another small infestation (5 moths) was detected near Huetter, ID in 1998. An eradication program was initiated in 1999 consisting of an aerial application of *B.t.k* to 35 acres surrounding the capture site. No moths were caught in detection or delimit traps in this area in subsequent years. In 2004, a gypsy moth determined to be of the Asian variety (AGM) was caught near Hauser, ID (Lech and Livingston 2004). A 600 acre aerial spray eradication program in Kootenai County, near Hauser, was conducted in 2005 using *B.t.k.*. European gypsy moths have been caught in various areas throughout the state in the annual detection surveys from 1986 through 2016 (Table 1). However, no eradication programs have occurred since 2004, because there is a low probability of populations becoming established when only a couple moths are detected in a single year.

Historic Idaho Gypsy Moth Reports can be requested from the Idaho Department of Lands by contacting the address on the cover of this report or calling 208-769-1525.

Cooperating agencies, with accompanying responsibilities in the Idaho gypsy moth program, include the following:

- Idaho Department of Lands - Overall program coordination and trapping in northern Idaho, except in Forest Service campgrounds.
- Idaho Department of Agriculture - Trapping in southwestern Idaho and submission of data to the National Agricultural Pest Information System (NAPIS) data library.
- USDA, APHIS - Provides cost share funding, traps, baits, and technical expertise.
- USDA Forest Service, Region 4 - Trapping in southeastern Idaho.
- USDA Forest Service, Region 1 - Trapping in Forest Service campgrounds in northern Idaho.
- Idaho Department of Transportation – Provides monthly reports of vehicle registrations in Idaho from states that are generally infested with gypsy moths.
- University of Idaho, Moscow – Technical assistance.

Table 1 - Gypsy moth trapping history in Idaho.

	NUMBER OF TRAPS SET				NUMBER OF MOTHS CAUGHT[5]				# POS. TRAPS	ACRES TREATED
YEAR	DET.[2]	DEL.[3]	MASS[4]	TOTAL	DET.[2]	DEL.[3]	MASS[4]	TOTAL		
1974[1]	0	0	0	0	0	0	0	0	0	
1975	45	0	0	45	0	0	0	0	0	
1976	254	0	0	254	0	0	0	0	0	
1977	232	0	0	232	0	0	0	0	0	
1978	248	0	0	248	0	0	0	0	0	
1979[1]	NA	NA	NA	NA	0	0	0	0	0	
1980	121	0	0	121	0	0	0	0	0	
1981	95	0	0	95	0	0	0	0	0	
1982	35	0	0	35	0	0	0	0	0	
1983[1]	NA	NA	NA	NA	0	0	0	0	0	
1984[1]	NA	NA	NA	NA	0	0	0	0	0	
1985[1]	NA	NA	NA	NA	0	0	0	0	0	
1986	208	0	0	208	1	0	0	1	1	
1987	420	0	0	420	35	0	0	35	9	
1988	1558	1457	0	3015	8	414	0	422	210	5 *B.t.k.*
1989	2248	0	7303	9551	17	0	51	68	54	380 *B.t.k.*
1990	5640	358	3268	9266	4	2	0	6	3	1055 *B.t.k.*
1991	4641	121	0	4762	4	0	0	4	4	
1992	4823	130	0	4953	2	1	0	3	3	
1993	4314	115	0	4429	2	0	0	2	1	
1994	4239	96	0	4335	1	2	0	3	3	
1995	4522	136	0	4658	1	0	0	1	1	
1996	4290	117	0	4407	0	0	0	0	0	
1997	5085	20	0	5105	0	0	0	0	0	
1998	4904	0	0	4904	7	0	0	7	3	
1999	4837	155	90	5082	0	0	0	0	0	35 *B.t.k.*
2000	5398	36	0	5434	0	0	0	0	0	
2001	5346	0	0	5346	2	0	0	2	2	
2002	5024	35	0	5059	0	0	0	0	0	
2003	5582	35	0	5617	0	0	0	0	0	
2004	5875	0	0	5875	1 *AGM*	0	0	1	1 *AGM*	
2005	4989	1441	0	6430	1	0	0	1	1	600 *B.t.k.*
2006	5380	1473	0	6853	0	0	0	0	0	
2007	4882	1475	0	6357	2	0	0	2	2	
2008	4157	69	0	4226	3	0	0	3	3	
2009	4972	419	0	5391	1	0	0	1	1	
2010	4373	380	0	4753	1	0	0	1	1	
2011	4511	69	0	4580	0	0	0	0	0	
2012	4227	36	0	4263	0	0	0	0	0	
2013	2349	0	0	2349	1	0	0	1	1	
2014	3749	36	0	3785	0	0	0	0	0	
2015	3951	36	0	3987	3	0	0	3	2	
2016	3846	36	0	3882	1	0	0	3	1	

[1]Trapping did occur in Idaho in these years, and no moths were found. However, records are not complete as to the exact number of traps placed.
[2]Detection.
[3]Delimitation.
[4]Mass trapping for control at approximately 9 traps/acre.
[5]All moths captured in Idaho have been of the European variety, except as noted in 2004.

2016 PROGRAM

Due to funding cuts from APHIS nationwide, the Idaho GM Program continues to evaluate trapping strategies to reduce the cost of placing detection traps, while providing effective trap coverage across the state. Appendix A describes the methods for categorizing trap zones based on risk of introduction. The 2013 season strategy changed the area of the current trap zones, the density of traps in all trap zones was reduced from 2-4 traps/sq mile to 1 trap/sq mile. This was about a 50% cut in the average active annual traps of 4,500 traps deployed in previous years. This reduction in trap density allowed for all trap zones to be trapped every year. After implementing this plan we found that reducing density in each zone did not reduce 2013 trapping costs, as anticipated. Trappers were still required to travel to each trap zone, thus travel costs did not decrease notably.

In 2014, a review of the history of trap placement, numbers, and density found that from the number of traps deployed varied significantly from year to year. This made it difficult to plan and budget for trapping for the next several years.

A plan was developed to reach our main objective; to reduce overall costs and effectively monitor for gypsy moth statewide, based on the following criteria:

1. Reduce the difference in the number of traps placed annually.
2. Reduce travel costs based on mileage and overnight trips.
3. Trap zones according to assigned category and associated schedule (Appendix A).
    a. Category 1 – trapped annually
    b. Category 2 – trapped every second year
    c. Category 3 – trapped every third year
4. Keep gypsy moth trap density at 2-4 traps/sq. mi. in trapping zones.

To reach these goals zones were aggregated by schedule and location. All Category 1 zones were trapped annually and nothing was done to change them. Category 2 zones were divided into two schedules (trapping year) by geographic regions (north and south or east and west). The line between these geographic regions was placed strategically to keep trap numbers as equal as possible, while minimizing travel time. The regions will be rotated each year so that all Category 2 zones are still trapped every other year. The same methodology was applied to Category 3 zones, except three geographic regions were defined and the schedule rotates so all Category 3 zones would be trapped on a three year cycle.

Detection Trapping - In 2016, the cooperating agencies in the Idaho gypsy moth detection program placed 3846 detection traps throughout the state (Table 2). Table 4 shows trap placements by county. Pheromone-baited traps were placed on a grid basis at a density of approximately 2-4 traps per square mile. Traps were placed throughout the state in cities, towns, surrounding urban areas, and rural communities in accordance with the pre-determined rotation schedule (see Appendix A). Cities and communities where 20 or more move-ins occurred were trapped irrespective of their place in the schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moth or by someone who purchased/brought a vehicle from infested states. This information is derived from vehicle registration information supplied on a monthly basis by the Idaho Department of Transportation. Most infestations are initiated when an egg mass or other life stage of gypsy moth arrives on an outdoor household article brought by someone moving into the area. Between May 2015 and April 2016, there were 10,506 move-ins and vehicle registrations to the state; a 14% increase over the previous year. Campgrounds, tourist attraction, and other high-risk locations were also trapped. There was one gypsy moth captured in detection traps in 2016 in Pocatello, Bannock County. This moth was determined by the OTIS Methods Development Lab (OTIS) to be of the European/North American Strain (EGM).

Delimitation Trapping – One gypsy moth was captured in Wardner, Shoshone County in 2015. Delimitation trapping utilizing 36 traps per square mile in a one mile area occurred around the single-moth capture site. Residents in the delimit trapping area were informed of the activity through a newspaper article and letter. No moths were caught in the first year of delimit trapping. Delimit trapping for this capture site will be continued for trapping season 2017.

Mass Trapping – No mass trapping for was conducted in Idaho in 2016.

Table 2 – Total number of gypsy moth traps placed, by agency, in Idaho in 2016.

AGENCY	DETECTION TRAPS	DELIMIT TRAPS	MASS TRAPS	TOTAL TRAPS
Idaho Dept. of Lands	2639	36	0	**2639**
ISDA	687	0	0	**687**
USFS - Region 4	443	0	0	**443**
USFS - Region 1	77	0	0	**77**
TOTALS	**3846**	**36**	**0**	**3882**

2017 PROGRAM

Detection Trapping –For trapping season 2017, we will continue the rotating schedule for trap zones and increase trap densities within the zones to minimize travel costs.

Delimitation Trapping – Delimitation trapping will be conducted at two locations in 2017. There will be a continuation of delimit trapping for the second year at the Wardner capture site following the capture of 3 male EGM in 2015. A new delimit survey will be conducted in Pocatello following the capture of one male EGM this year. The trap density will be 36 traps/mi^2 surrounding the capture sites.

Mass Trapping and Eradication - No mass trapping or eradications are proposed for the 2017 season.

Table 3 – Approximated actual costs of the gypsy moth survey and treatment program for calendar year 2016.

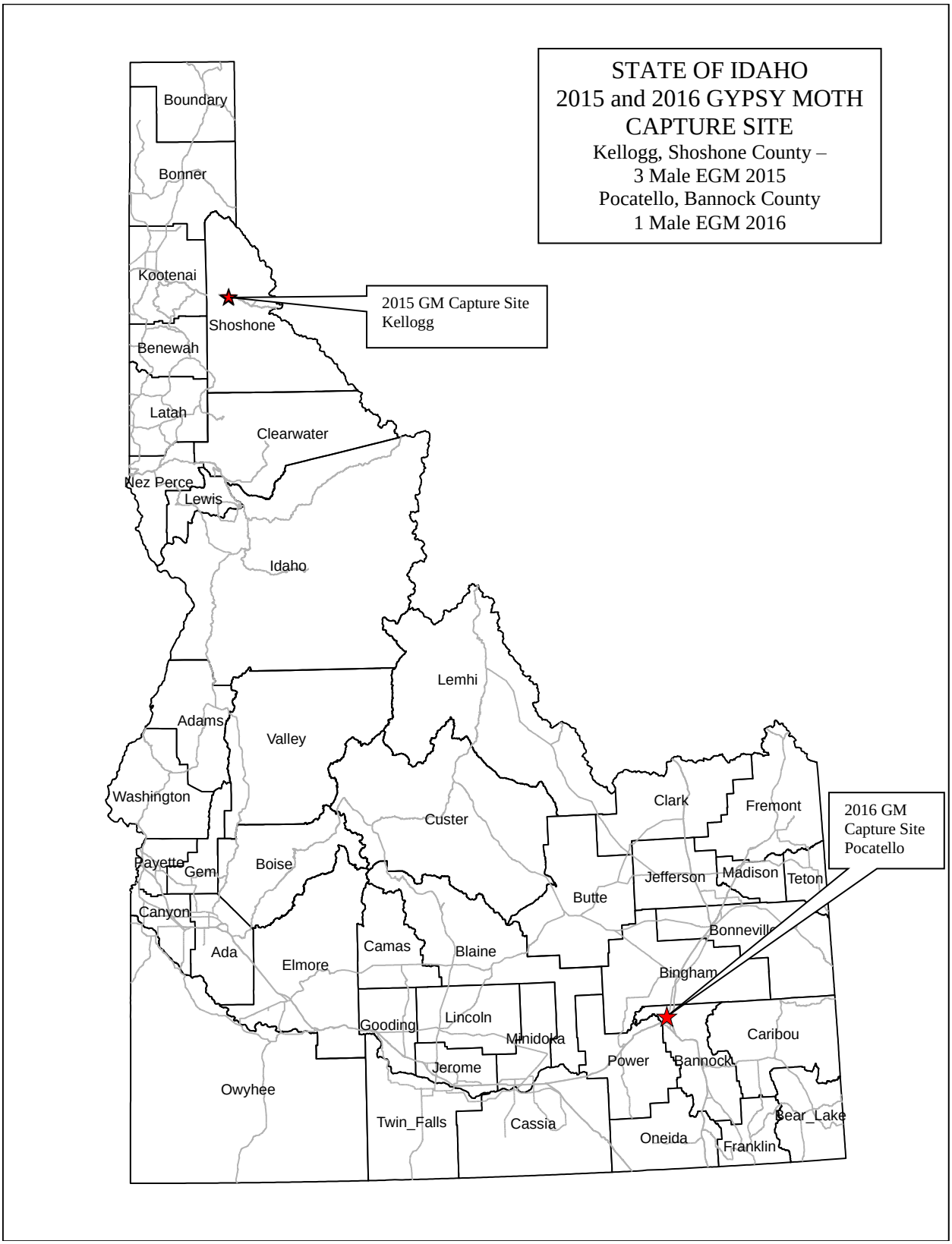
AGENCY	COST	
	European GM	**Asian GM**
IDL: State Funds to Idaho Department of Lands from Idaho State Department of Agriculture	$44,800.00	Not applicable
IDL: USDA – APHIS Cooperative Grant to IDL through ISDA	$22,500.00	
IDL: USDA – FS S&PF Forest Health Funds to IDL*	$ 6,300.00	"
Idaho State Department of Agriculture	$12,200.00	"
US Forest Service- Region 1	$ 1,500.00	"
US Forest Service- Region 4	$ 9,100.00	"
USDA- APHIS Direct Costs for traps and lures	$ 2,200.00	"
2016 Total	$98,600.00	

*** Funds to support Gypsy Moth Data Coordinator year round staff**

Table 4 - 2016 Trap placements by county

County Name	No.	DETECTION 2-4/MILE^2	DELIMITATION 16 -36/MILE^2	MASS 9/ACRE	TOTAL TRAPS
Ada	1	151	0	0	151
Adams	2	0	0	0	0
Bannock	3	108	0	0	108
Bear Lake	4	4	0	0	4
Benewah	5	80	0	0	80
Bingham	6	62	0	0	62
Blaine	7	35	0	0	35
Boise	8	4	0	0	4
Bonner	9	584	0	0	584
Bonneville	10	125	0	0	125
Boundary	11	187	0	0	187
Butte	12	0	0	0	0
Camas	13	0	0	0	0
Canyon	14	77	0	0	77
Caribou	15	10	0	0	10
Cassia	16	33	0	0	33
Clark	17	2	0	0	2
Clearwater	18	217	0	0	217
Custer	19	14	0	0	14
Elmore	20	30	0	0	30
Franklin	21	8	0	0	8
Fremont	22	17	0	0	17
Gem	23	17	0	0	17
Gooding	24	38	0	0	38
Idaho	25	338	0	0	338
Jefferson	26	20	0	0	20
Jerome	27	22	0	0	22
Kootenai	28	553	0	0	553
Latah	29	424	0	0	424
Lemhi	30	19	0	0	19
Lewis	31	33	0	0	33
Lincoln	32	7	0	0	7
Madison	33	15	0	0	15
Minidoka	34	35	0	0	35
Nez Perce	35	185	0	0	185
Oneida	36	4	0	0	4
Owyhee	37	38	0	0	38
Payette	38	21	0	0	21
Power	39	17	0	0	17
Shoshone	40	126	36	0	162
Teton	41	10	0	0	10
Twin Falls	42	85	0	0	85
Valley	43	66	0	0	66
Washington	44	25	0	0	25
Total		3846			3882

Figure 1: State of Idaho 2015/2016 Gypsy Moth Capture Site



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Livingston, R. Ladd. 1990. State of Idaho, Summary report of 1990 gypsy moth eradication and survey efforts with a brief history of the gypsy moth and related activities from 1974 to 1989. Report No. IDL 90-7.

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APPENDIX A

GYPSY MOTH DECISION CRITERIA FOR AREAS TO TRAP

Original decision criteria as to what areas (zones) or cities to do detection trapping for gypsy moth in and on what schedule to trap were developed by the Gypsy Moth Technical Advisory Committee in 1989. Revisions have been made in succeeding years. The cities, towns, communities and rural areas of the state are categorized as follows.

Category 1. Detection surveys conducted annually. This category includes larger cities and towns where numerous people or families moving into the area (move-ins) each year cause a substantial risk of gypsy moth infestation and dictate annual detection trapping. Consideration was also given to cities with colleges, industry, a military base, or tourism that would influence the risk of infestation or that otherwise made annual detection trapping advisable. There are currently 82 category 1 communities/ areas in Idaho.

Category 2. This category includes smaller cities and towns with populations greater than 2000 but which normally have fewer move-ins. Detection trapping will normally be done every second year. There are currently 12 category 2 communities/ areas in Idaho.

Category 3. This category includes communities and other areas with populations generally less than 2000. Detection trapping is normally done every third year. There are currently 241 category 3 communities/ areas in Idaho.

Category 4. This category includes small isolated towns or communities where limited or non-contiguous host interrupts the natural or unaided spread of the insect. These zones will be trapped only every third year, without regard to move-ins. This Category was combined with Category 3 in 2014.

Category 5. This category was developed for rural communities or areas where little or no risk of introduction exists due to lack of host or limited population. These areas are not trapped unless something occurs that would increase the risk of introduction in a particular year. This also includes delimit sites. There is currently one category 5 community/area in Idaho that was trapped in 2016.

A large percentage of the gypsy moth movement around the nation is brought about by families moving into a community and bringing gypsy moths in various life stages (particularly egg masses) with them, usually on outdoor household articles. For this reason, it was determined by the Technical Advisory Committee that if more than 20 move-ins occurred in a category 1, 2 or 3 zone in a one year period (May- April), that zone would be trapped that year, regardless of where it was in the normal schedule. This additional trapping will not interrupt or alter the regular schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moths. This information is provided to the program by the Idaho Department of Transportation.

The following pages comprise a list of Idaho cities and towns and the category into which they fall.

GYPSY MOTH TRAP

ZONE CATEGORIES

Zone	City	County	Category
Outlet CG		Custer	1
Stanley	Stanley	Custer	3
Pole Flat CG		Custer	1
Stoddard Creek CG		Clark	1
Iron Creek CG		Custer	1
Mt. Heyburn CG		Custer	1
Smokey Bear CG		Custer	1
Mike Harris CG		Bonneville	1
Headquarters	Headquarters	Clearwater	3
Lower Mesa CG		Fremont	1
Pine Creek CG		Bonneville	1
Bayhorse CG		Custer	1
Syringa	Syringa	Idaho	3
Heise	Heise	Jefferson	3
Riverside CG		Fremont	1
Stanley Lake CG		Custer	1
Blackrock	Blackrock	Bannock	1
Alpine CG		Bonneville	1
Scout Mountain CG		Bannock	1
Wood River CG		Blaine	1
Bull Trout CG		Boise	1
Grandjean CG		Boise	1
Sunny Gulch CG		Custer	1
Riddle	Riddle	Owyhee	3
Buttermilk CG		Fremont	1
Calamity CG		Bonneville	1
McCoy CG		Bonneville	1
Flat Rock CG		Fremont	1
Big Springs CG		Fremont	1
Falls CG		Bonneville	1
Cardiff	Cardiff	Clearwater	3
Reubens	Reubens	Lewis	3
Pleasantview	Pleasantview	Oneida	3
Shoshone	Shoshone	Lincoln	3
Rockford	Rockford	Bingham	3
Mink Creek	Mink Creek	Franklin	3
Springfield	Springfield	Bingham	3
Indian Valley	Indian Valley	Adams	3
Tamarack	Tamarack	Adams	3
Ferdinand	Ferdinand	Idaho	3
Fish Haven	Fish Haven	Bear Lake	3
Masacre Rock	Massacre Rocks	Power	3

Zone	City	County	Category
Bowmont	Bowmont	Canyon	3
Lewisville	Lewisville	Jefferson	3
Lowman	Lowman	Boise	3
Letha	Letha	Gem	3
Leadore	Leadore	Lemhi	3
Lava Hot Spring	Lava Hot Springs	Bannock	3
Minidoka	Minidoka	Minidoka	3
Bancroft	Bancroft	Caribou	3
Banida	Banida	Franklin	3
Dubois	Dubois	Clark	3
Mountain Home AFB	Mountain Home AFB	Elmore	1
Banks	Banks	Boise	3
Basalt	Basalt	Bingham	3
Moreland	Moreland	Bingham	3
Moore	Moore	Butte	3
May	May	Lemhi	3
Monteview	Monteview	Jefferson	3
Lucile	Lucile	Idaho	3
Midvale	Midvale	Washington	3
Bennington	Bennington	Bear Lake	3
Bern	Bern	Bear Lake	3
Mesa	Mesa	Adams	3
Menan	Menan	Jefferson	3
Melba	Melba	Canyon	3
Bloomington	Bloomington	Bear Lake	3
Malta	Malta	Cassia	3
Mackay	Mackay	Custer	3
Montpelier	Montpelier	Bear Lake	2
Dayton	Dayton	Franklin	3
Crouch	Crouch	Boise	3
Glenns Ferry	Glenns Ferry	Elmore	3
Givens Hot Springs	Givens Hot Springs	Owyhee	3
Georgetown	Georgetown	Bear Lake	3
Gardena	Gardena	Boise	3
Garden Valley	Garden Valley	Boise	3
Gannett	Gannett	Blaine	3
Huston	Huston	Canyon	3
Franklin	Franklin	Franklin	3
Grand View	Grand view	Owyhee	3
Fort Hall	Fort Hall	Bingham	3
Firth	Firth	Bingham	3
Declo	Declo	Cassia	3

Zone	City	County	Category
Fairfield	Fairfield	Camas	3
Dietrich	Dietrich	Elmore	3
Dingle	Dingle	Bear Lake	3
Downey	Downey	Bannock	3
Driggs	Driggs	Teton	1
Fruitvale	Fruitvale	Adams	3
Mud Lake	Mud Lake	Jefferson	3
Kooskia	Kooskia	Idaho	3
King Hill	King Hill	Elmore	3
Kimama	Kimama	Lincoln	3
Cambridge	Cambridge	Washington	3
Yellow Pine	Yellow Pine	Valley	3
Carey	Carey	Blaine	3
Iona	Iona	Bonneville	3
Inkom	Inkom	Bannock	3
Council	Council	Adams	3
Howe	Howe	Butte	3
Grace	Grace	Caribou	3
Holbrook	Holbrook	Oneida	3
Hill City	Hill City	Camas	3
Centerville	Centerville	Boise	3
China Cap	China Cap	Caribou	3
Hamer	Hamer	Jefferson	3
Clifton	Clifton	Franklin	3
Greenleaf	Greenleaf	Canyon	3
Bruneau Hot Springs	Bruneau Hot Springs	Owyhee	3
Bailey Creek	Bailey Creek	Caribou	3
Aberdeen	Aberdeen	Bingham	3
Robin	Robin	Bannock	3
Sugar City	Sugar City	Madison	3
New Plymouth	New Plymouth	Payette	3
Pingree	Pingree	Bingham	3
Stone	Stone	Oneida	3
Pioneerville	Pioneerville	Boise	3
Placerville	Placerville	Boise	3
Almo	Almo	Cassia	3
Stibnite	Stibnite	Valley	3
Starkey	Starkey	Adams	3
Pollock	Pollock	Idaho	3
Picabo	Picabo	Blaine	3
Acequia	Acequia	Minidoka	3
Swan Valley/Irwin	Swan Valley	Bonneville	3
Smiths Ferry	Smiths Ferry	Valley	3
Silver City	Silver City	Owyhee	3
Samaria	Samaria	Oneida	3
Roswell	Roswell	Canyon	3

Zone	City	County	Category
Reynolds	Reynolds	Owyhee	3
Richfield	Richfield	Lincoln	3
Rogerson	Rogerson	Twin Falls	3
Riggins	Riggins	Idaho	3
Ririe	Ririe	Bonneville	3
Rockland	Rockland	Power	3
Riverside	Riverside	Bingham	3
Roberts	Roberts	Jefferson	3
St. Charles	St. Charles	Bear Lake	3
Tuttle	Tuttle	Gooding	3
Newdale	Newdale	Fremont	3
Atlanta	Atlanta	Elmore	3
Weston	Weston	Franklin	3
Warren	Warren	Idaho	3
Warm Lake	Warm Lake	Valley	3
Victor	Victor	Teton	1
North Fork	North Fork	Lemhi	3
Notus	Notus	Canyon	3
Oakley	Oakley	Cassia	3
Ola	Ola	Gem	3
Oreana	Oreana	Owyhee	3
Ucon	Ucon	Bonneville	3
Arimo	Arimo	Bannock	3
Paris	Paris	Bear Lake	3
Tendoy	Tendoy	Lemhi	3
Terreton	Terreton	Jefferson	3
Pearl	Pearl	Gem	3
Teton	Teton	Fremont	3
Paul	Paul	Minidoka	3
Parker	Parker	Fremont	3
Arco	Arco	Butte	3
Thornton	Thornton	Madison	3
Oxford	Oxford	Franklin	3
Ovid	Ovid	Bear Lake	3
Tetonia	Tetonia	Teton	3
Challis	Challis	Custer	3
Hammett	Hammett	Elmore	3
Genesee	Genesee	Latah	3
Craigmont	Craigmont	Lewis	3
Sweet	Sweet	Gem	3
Hagerman	Hagerman	Gooding	3
Jaype	Jaype	Clearwater	3
Elk City	Elk City	Idaho	1
Lowell	Lowell	Idaho	3
Kamiah North	Kamiah	Idaho	1
Cameron	Cameron	Nez Perce	3
Ashton	Ashton	Fremont	3
McCammon	McCammon	Bannock	3

Zone	City	County	Category
Pine	Pine	Elmore	3
Malad City	Malad City	Oneida	2
Filer	Filer	Twin Falls	1
Larson	Larson	Clearwater	3
Murphy	Murphy	Owyhee	3
Pierce	Pierce	Clearwater	3
Slickpoo Mission	Slickpoo	Nez Perce	3
Castleford	Castleford	Twin Falls	3
Rigby	Rigby	Jefferson	1
Bliss	Bliss	Gooding	3
Bruneau	Bruneau	Owyhee	3
Island Park	Island Park	Fremont	3
Marsing	Marsing	Owyhee	3
Homedale	Homedale	Owyhee	2
Elk River	Elk River	Clearwater	3
Murtaugh	Murtaugh	Twin Falls	3
Murray	Murray	Shoshone	3
Featherville	Featherville	Elmore	3
Salmon River	Salmon River	Custer	2
Jerome	Jerome	Jerome	1
Idaho City	Idaho City	Boise	3
Eden	Eden	Jerome	3
Horseshoe Bend	Horseshoe Bend	Boise	3
Hazelton	Hazelton	Jerome	3
Border		Boundary	1
Hansen	Hansen	Twin Falls	3
Bellevue	Bellevue	Blaine	1
Preston	Preston	Franklin	1
Shelley	Shelley	Bingham	1
Wilder	Wilder	Canyon	3
White bird	White bird	Idaho	3
Peck	Peck	Nez Perce	3
Kamiah	Kamiah	Lewis	1
Clarkia	Clarkia	Shoshone	3
Calder	Calder	Shoshone	3
St. Anthony	St. Anthony	Fremont	1
Cavendish	Cavendish	Clearwater	3
Buhl	Buhl	Twin Falls	1
Donnelly	Donnelly	Valley	1
Heyburn	Heyburn	Minidoka	2
American Falls	American Falls	Power	1
Leland	Leland	Nez Perce	3
Ahsahka	Ahsahka	Clearwater	3
Soda Springs	Soda Springs	Caribou	1
Fruitland	Fruitland	Payette	1
Spalding	Spalding	Nez Perce	3
Star	Star	Ada	1

Zone	City	County	Category
Culdesac	Culdesac	Nez Perce	3
Gleason Meadows	Gleason Meadows	Bonner	3
New Meadows	New Meadows	Adams	3
Rupert	Rupert	Minidoka	1
Grangemont	Grangemont	Clearwater	3
Payette	Payette	Payette	1
Parma	Parma	Canyon	2
Wendell	Wendell	Gooding	1
Moyie East	Moyie Springs	Boundary	3
Cascade	Cascade	Valley	1
Lenore	Lenore	Nez Perce	3
Cottonwood	Cottonwood	Idaho	3
Rexburg	Rexburg	Madison	1
Bovill	Bovill	Latah	3
Orofino SE	Orofino	Clearwater	3
Kendrick	Kendrick	Latah	3
Mountain Home	Mountain Home	Elmore	1
Harris Ridge	Harris Ridge	Idaho	3
Hailey	Hailey	Blaine	1
Winchester	Winchester	Lewis	3
Gooding	Gooding	Gooding	1
Harrisburg	Harrisburg	Idaho	3
Gold Hill	Gold Hill	Latah	3
Middleton	Middleton	Canyon	1
Kamiah East	Kamiah	Idaho	1
Eagle	Eagle	Ada	1
Burley	Burley	Cassia	1
Emida	Emida	Benewah	3
Ketchum	Ketchum	Blaine	1
Juliaetta	Juliaetta	Latah	3
Farragut	Bayview	Kootenai	1
Blackfoot	Blackfoot	Bingham	1
Emmett	Emmett	Gem	1
Eastport	Eastport	Boundary	3
Caldwell	Caldwell	Canyon	1
Salmon	Salmon	Lemhi	1
Helmer	Helmer	Latah	3
Stites	Stites	Idaho	3
Chatcolet	Chatcolet	Benewah	3
Tahoe Ridge	Tahoe Ridge	Idaho	3
Four Corners	Four Corners	Bonner	3
Nordman	Nordman	Bonner	3
Pack River	Pack River	Bonner	3
Clearwater	Clearwater	Idaho	3
Kuna	Kuna	Ada	1
Lapwai	Lapwai	Nez Perce	3

Zone	City	County	Category
Kreiger Creek	Kreiger Creek	Bonner	3
Weiser	Weiser	Washington	1
Deary South	Deary	Latah	3
Benewah	Benewah	Benewah	3
Desmet	Desmet	Benewah	3
Southwick	Southwick	Nez Perce	3
Bonners South	Bonners Ferry	Boundary	3
Laclede	Laclede	Bonner	3
Weippe	Weippe	Clearwater	3
Elmira	Elmira	Bonner	3
Deary North	Deary	Latah	3
Glenwood	Glenwood	Idaho	3
Moscow	Moscow	Latah	1
Bonners Ferry	Bonners Ferry	Boundary	1
Mica Bay	Mica Bay	Kootenai	3
Meridian	Meridian	Ada	1
Plummer	Plummer	Benewah	3
Deep Creek	Deep Creek	Latah	3
Potlatch	Potlatch	Latah	3
Wallace	Wallace	Shoshone	3
Fraser	Fraser	Clearwater	3
Fernwood	Fernwood	Benewah	3
Nampa	Nampa	Canyon	1
Porthill	Porthill	Boundary	3
McAbee Falls	McAbee Falls	Bonner	3
Worley	Worley	Kootenai	3
Lamb Creek	Lamb Creek	Bonner	3
Osburn	Osburn	Shoshone	2
Wrenco	Wrenco	Bonner	3
Spirit Lake	Spirit Lake	Kootenai	3
Naples	Naples	Boundary	3
Hope	Hope	Bonner	3
Rockford Bay	Rockford Bay	Kootenai	3
Coeur D'Alene River	Prichard	Shoshone	3
Priest River	Priest River	Bonner	1
Priest River South	Priest River	Bonner	1
Athol	Athol	Kootenai	1
Beauty Bay	Beauty Bay	Kootenai	3
Clark Fork	Clark Fork	Bonner	3
McCall	McCall	Valley	1
Grangeville	Grangeville	Idaho	1
Careywood	Careywood	Bonner	3
Twin Falls	Twin Falls	Twin Falls	1
Lewiston	Lewiston	Nez Perce	1
Orofino	Orofino	Clearwater	1
Coolin	Coolin	Bonner	3

Zone	City	County	Category
Wolf Lodge	Wolf Lodge	Kootenai	2
Moyie Springs	Moyie Springs	Boundary	3
St. Maries	Saint Maries	Benewah	1
Rathdrum	Rathdrum	Kootenai	1
Harrison	Harrison	Kootenai	3
Rose Lake	Rose Lake	Kootenai	3
Kellogg/Pinehurst	Kellogg	Shoshone	2
Kellogg/Pinehurst	Wardner	Shoshone	5
Boise	Boise	Ada	1
Potlatch South	Potlatch	Latah	3
Idaho Falls	Idaho Falls	Bonneville	1
Post Falls	Post Falls	Kootenai	1
Pocatello	Pocatello	Bannock	1
USFS-R1			1
Sagle East	Sagle East	Bonner	2
Coeur D'Alene West	Coeur D'Alene West	Kootenai	2
Sagle West	Sagle West	Bonner	2
Sandpoint	Sandpoint	Bonner	1
Rural Moscow	Moscow	Latah	3
Coeur D'Alene	Coeur d'Alene	Kootenai	1